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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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### C mplete If Known

Application Number	09/469,200
Filing Date	12/21/1999
First Named Inventor	Paul Weigel, et al.
Group Art Unit	1653
Examiner Name	G. Bugaisky
Attorney Docket Number	35541.011

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### U.S. PATENT DOCUMENTS

Examiner Initials <sup>1</sup>	Cite No. <sup>1</sup>	U.S. Patent Document Number	Kind Code <sup>2</sup> (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
908	1	RE37336		Weigel, et al.	08/21/1981	435/1101
	2	4224179		Schneider	09/23/1980	264/14-6
	3	4235871		Papahadjopoulos, et al.	11/25/1980	424/1450
	4	4511478		Nowniski, et al.	04/16/1985	210/1691
	5	4617295		Bracke, et al.	05/14/1985	435/1101
	6	4815662	4615662	Robinson	10/07/1988	424/1428
	7	4708861		Popescu, et al.	11/24/1987	424/11-21
	8	4780414		Nimrod, et al.	10/25/1988	435/1101
	9	4782046		Brown, et al.	11/01/1988	514/54
	10	4784990		Nimrod, et al.	11/16/1988	514/54
	11	4801539		Akasaki, et al.	01/31/1989	435/1101
	12	4822867		Erian	04/18/1989	527/1200
	13	4983392		Robinson	01/08/1991	424/1423
	14	5015577		Weigel, et al.	05/14/1991	435/1101
	15	5023175		Hosoya, et al.	06/11/1991	435/1101
	16	5071751		Morita, et al.	10/12/1991	435/1101
	17	5171689		Kawaguri, et al.	12/15/1992	204/1403-1
	18	5217743		Farah	08/08/1993	427/12-3
	19	5337747		Nafiel	08/16/1994	606/347
	20	5472704		Santus, et al.	12/05/1995	424/1435

### FOREIGN PATENT DOCUMENTS

Examiner Initials <sup>1</sup>	Cite No. <sup>1</sup>	Foreign Patent Document Office <sup>3</sup> Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
908	A	0036776	EPO	Kleid, et al.	05/11/1988		
	B	0144019	EPO	Brown, et al.	06/13/1990		
	C	0195303	EPO	Grandi, et al.	11/08/1989		
	D	0244757	EPO	Hosoya, et al.	11/09/1994		
	E	0268578	EPO	Miyamori, et al.	07/07/1993		
	F	91/03559	WO	Weigel, et al.	03/21/1991		
	G	94/00463	WO	Prehm, et al.	01/06/1994		
	H	95/24497	WO	Lensing, et al.	09/14/1995		
	I	95/33067	WO	Stoh, Sten	12/07/1995		
	J	97/20081	WO	Wong, et al.	08/05/1997		

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		Office <sup>3</sup>	Number <sup>4</sup>			
K		B-38336	JP	Iano, et al.	1986 1997	
L		4-124854	JP		1992	
M		4-134854	JP		1992	
N		61-257169	JP		1986	
O		4-80202			03/13/1992	
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Q		62032893	JP	" "	1987	
R		4-158798	JP	" "	1992	
S		2249315	GB	Satch, et al.	05/06/1992	

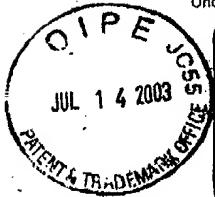
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Sheet 3 of 5

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Application Number	09/469,200
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First Named Inventor	Paul Weigel, et al.
Group Art Unit	1653
Examiner Name	G. Bugalsky
Attorney Docket Number	35541.011

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### OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.†	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
AA	"THE PRODUCTION OF CAPSULES, HYALURONIC ACID AND HYALURONIDASE BY GROUP A AND GROUP C STREPTOCOCCI", MacLennan, J. Gen. Microbiol., 14:134-142 (1956).		
BB	"THE ISOLATION AND CHARACTERIZATION OF A HYALURONIDASE PRODUCED BY A CAPSULATED STRAIN OF GROUP C STREPTOCOCCUS", MacLennan, J. Gen. Microbiol., 14:143-152 (1956).		
CC	"THE BIOSYNTHESIS OF HYALURONIC ACID BY GROUP A STREPTOCOCCUS", Markovitz et al., J. Biol. Chem., 234 (9):2343-2350 (1959).		
DD	"THE BIOSYNTHESIS OF HYALURONIC ACID BY STREPTOCOCCUS," Stoolmiller, et al., Journal of Biological Chemistry, Vol. 244, No. 2, pp. 236-246 (1969).		
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FF	"MODERN GENETICS," Ayala, et al., Benjamin/Cummings Publishing Co., Menlo Park CA, p. 45 (1980).		
GG	"STRAINS OF ESCHERICHIA COLI CARRYING THE STRUCTURAL GENE FOR HISTIDYL-tRNA SYNTHETASE ON A HIGH COPY-NUMBER PLASMID," Eisenbeis, et al., Mol. Gen. Genet. 183:115-122 (1981).		
HH	"SYNTHESIS OF HYALURONATE IN DIFFERENTIATED TERATOCARCINOMA CELLS," Prehm, et al., J. Biochem, Vol. 211, pp. 181-189 (1983).		
II	"STREPTOCOCCAL HYALURONIC ACID: PROPOSED MECHANISMS OF DEGRADATION AND LOSS OF SYNTHESIS DURING STATIONARY PHASE", Van de Rijn, J. Bacteriol., 156(3):1059-1065 (1983).		
JJ	"SOLUBILIZATION OF HYALURONIC ACID SYNTHETIC ACTIVITY FROM STREPTOCOCCI AND ITS ACTIVATION WITH PHOSPHOLIPIDS", Triscott et al., J. Biol. Chem., 261(13):6004-6009 (1986).		
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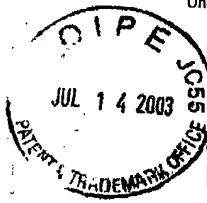
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Attorney Docket Number	35541.011

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LL	"ISOLATION, STRUCTURE AND EXPRESSION OF MAMMALIAN GENES FOR HISTIDYL-tRNA SYNTHETASE," Tsui, et al., Nucleic Acids Research, Vol. 15, No. 8, pp. 3349-3367, (1987).		
MM	"SHUTTLE VECTORS CONTAINING A MULTIPLE CLONING SITE AND A LACZ GENE FOR CONJUGAL TRANSFER OF DNA FROM ESCHERICHIA COLI TO GRAM-POSITIVE BACTERIA," Trieu-Cout, et al., Gene, Vol. 102, pp. 99-104, (1991).		
NN	"ANALYSIS OF THE STREPTOCOCCAL HYALURONIC ACID SYNTHASE COMPLEX USING THE PHOTOAFFINITY PROBE 5-AZIDO-UDP-GLUCURONIC ACID," Van de Rijn, et al., J. Biol. Chem., Vol. 267, No. 34, pp. 24302-24306, (1992).		
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PP	"HYALURONAN," Laurent, et al., FASEB Journal, Vol. 6, pp. 2397-2404, (1992).		
QQ	"ISOLATION OF A STREPTOCOCCUS PYOGENES GENE LOCUS THAT DIRECTS HYALURONAN BIOSYNTHESIS IN ACAPSULAR MUTANTS AND IN HETEROLOGOUS BACTERIA," DeAngelis, et al., J. Biol. Chem., Vol. 268, No. 20, pp. 14568-14571, (1993).		
RR	"HYALURONATE SYNTHASE: CLONING AND SEQUENCING OF THE GENE FROM STREPTOCOCCUS SP.," Lansing, et al., J. Biochem., Vol. 289, pp. 179-184, (1993).		
SS	"MOLECULAR CHARACTERIZATION OF HASB FROM AN OPERON REQUIRED FOR HYALURONIC ACID SYNTHESIS IN GROUP A STREPTOCOCCI," Dougherty, et al., J. Biol. Chem., Vol. 268, No. 10, pp. 7118-7124, (1993).		
TT	"MOLECULAR CLONING, IDENTIFICATION, AND SEQUENCE OF THE HYALURONAN SYNTHASE GENE FROM GROUP A STREPTOCOCCUS PYOGENES," DeAngelis, et al., J. Biol. Chem., Vol. 268, No. 26, pp. 19181-19184, (1993).		
UU	"MOLECULAR CHARACTERIZATION OF HASA FROM AN OPERON REQUIRED FOR HYALURONIC ACID SYNTHESIS IN GROUP A STREPTOCOCCI," Dougherty, et al., J. Biol. Chem., Vol. 269, No. 1, pp. 169-175, (1994).		
VV	"THE STREPTOCOCCUS PYOGENES HYALURONAN SYNTHASE: SEQUENCE COMPARISON AND CONSERVATION AMONG VARIOUS GROUP A STRAINS," DeAngelis, et al., Biochem. and Biophys. Res. Comm., Vol. 199, No. 1, pp. 1-10, (1994).		

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Date Considered 9/15/03

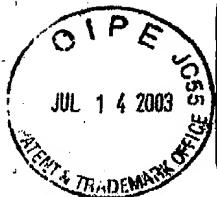
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	WW	"MOLECULAR FINGERPRINTING OF PASTEURELLA MULTOCIDA ASSOCIATED WITH PROGRESSIVE ATROPHIC RHINITIS IN SWINE HERDS". Gardner et al. <del>Database Medline on Dialog, US Natl. Library of Medicine (Bethesda, MD, USA) No. 05161494 Abstract, J. Vet. Diagn. Invest. Oct. 1994, Vol. 6, No. 4, pages 300-303</del> 442-447
	XX	"THE ELUCIDATION OF NOVEL CAPSULAR GENOTYPES OF HAEMOPHILUS INFLUENZAE TYPE B WITH THE POLYMERASE CHAIN REACTION. Leaves et al. J. Medical Microbiology. 1995, Vol. 43, pages 120-124, entire document.
	YY	"HOMOLOGS OF THE XENOPUS DEVELOPMENTAL GENE DG42 ARE PRESENT IN ZEBRAFISH AND MOUSE AND ARE INVOLVED IN THE SYNTHESIS OF NOD-LIKE CHITIN OLIGOSACCHARIDES DURING EARLY EMBRYOGENESIS", Semino et al., Proc. Natl Acad. Sci. USA, 93:4548-4553 (1996).
	ZZ	"ENZYMOLOGICAL CHARACTERIZATION OF THE PASTEURELLA MULTOCIDA HYALURONIC ACID SYNTHASE", DeAngelis, Biochemistry, 35 (30): 9768-9771 (1996).
	aa	"CONSTRUCTION AND CHARACTERIZATION OF A POTENTIAL LIVE ORAL CARRIER-BASED VACCINE AGAINST VIBRIO CHOLERAE". Favre et al. Infection and Immunity. September 1996. Vol. 64, No. 9 pages 3565-3570, entire document.
	bb	"MOLECULAR CLONING, EXPRESSION, AND CHARACTERIZATION OF THE AUTHENTIC HYALURONAN SYNTHASE FROM GROUP C STREPTOCOCCUS EQUISIMILIS", Kumari and Weigel, J. Biol. Chem., 272(51): 32539-32546 (1997).
	cc	"HYALURONAN SYNTHASES", Welgel et al., J. Biol. Chem., 272 (22): 13997-14000 (1997).
	dd	"IDENTIFICATION AND MOLECULAR CLONING OF A UNIQUE HYALURONAN SYNTHASE FROM PASTEURELLA MULTOCIDA", DeAngelis et al., J. Biol. Chem., 273(14): 8454-8458 (1998).
	ee	"THE CAPSULE BIOSYNTHETIC LOCUS OF PASTEURELLA MULTOCIDA A:1. Chung, et al. FEMS Microbiol. Lett. 15 September 1998, Vol. 166, No. 2, pages 289-296, entire document.

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